



STATE OF HAWAII

DEPARTMENT OF HEALTH
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HONOLULU, HI 96801-3378

In reply, please refer to:
File:

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NPDES PERMIT NO. HI S000090

**FACT SHEET: APPLICATION FOR RENEWAL OF NATIONAL POLLUTANT
DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO
DISCHARGE TO VARIOUS WATERS OF THE UNITED STATES**

PERMITTEE: U.S. ARMY GARRISON HAWAII

**FACILITY: U.S. ARMY GARRISON HAWAII MUNICIPAL SEPARATE STORM
SEWER SYSTEM (MS4)**

**Schofield Barracks, Wahiawa, Oahu, Hawaii
Wheeler Army Airfield, Wahiawa, Oahu, Hawaii
Fort Shafter, Honolulu, Oahu, Hawaii
Helemanu Military Reservation, Wahiawa, Oahu, Hawaii
Aliamanu Military Reservation, Honolulu, Oahu, Hawaii
Tripler Army Medical Center, Honolulu, Oahu, Hawaii**

FACILITY STREET ADDRESS

U.S. Army Garrison Hawaii
Schofield Barracks, HI 96857-6000

PERMITTEE MAILING ADDRESS

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This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this permit.

A. Permit Information

The following table summarizes administrative information related to the Army Garrison Hawaii (hereinafter facility).

Table F-1. Facility Information

Permittee	U.S. Army Garrison Hawaii	
Name of Facility	U.S. Army Garrison Hawaii Schofield Barracks, Wahiawa, Oahu, Hawaii Wheeler Army Airfield, Wahiawa, Oahu, Hawaii Fort Shafter, Honolulu, Oahu, Hawaii Helemano Military Reservation, Wahiawa, Oahu, Hawaii Aliamanu Military Reservation, Honolulu, Oahu, Hawaii Tripler Army Medical Center, Honolulu, Oahu, Hawaii	
Facility Address	U.S. Army Garrison Hawaii Schofield Barracks, HI 96857-6000	
Facility Contact, Title, and Phone	Mr. Alvin Char Director, Environmental Division Telephone: 808-656-3105 Email: alvin.char@us.army.mil	
Authorized Person to Sign and Submit Reports	Colonel Daniel W. Whitney Garrison Commander Telephone: 808-656-1153	
Mailing Address	U.S. Army Garrison Hawaii Schofield Barracks, HI 96857-6000	
Billing Address	Same	
Type of Facility	Municipal Separate Storm Sewer System	
Pretreatment Program	NA	
Reclamation Requirements	NA	
Facility Permitted Flow	Outfall Serial No.	Discharge
	Various Outfalls, as identified in permit application	Storm Water Runoff*
		Storm Water Associated with Industrial Activity
Receiving Waters	Various Streams, as identified in the permit application	
Receiving Water Types	Streams	
Receiving Water Classification	Class 2 Inland Waters	

* including certain specified non storm water discharges

1. NPDES Permit No. HI S000090 became effective on February 7, 2007 and expired on August 31, 2011. The Permittee reapplied for an NPDES permit on February 28, 2011. The Hawaii Department of Health (hereinafter DOH) administratively extended the NPDES permit on August 31, 2011, pending the reapplication processing.
2. The Director of Health (hereinafter Director) proposes to issue a permit to discharge to the waters of the state until five (5) years after the date of issuance,

and has included in the permit those terms and conditions which he has determined are necessary to carry out the provisions of the Federal Water Pollution Control Act (P.L. 92-500), Federal Clean Water Act (CWA) of 1988 (P.L. 95-217) and Chapter 342D, Hawaii Revised Statutes.

B. Facility Setting

1. Facility Operation and Location

This MS4 permit shall cover the following Army Garrison Hawaii's facilities on the Island of Oahu:

a. Schofield Barracks, Wahiawa, Oahu, Hawaii

Schofield Barracks is located in the saddle between the Waianae and Koolau Mountain Ranges on the island of Oahu, and is home to the 25th Infantry Division (Light). Vehicles, equipment, and supplies used by the Division are stored and maintained on-base. The Permittee conducts on-going training exercises, and has housing and amenities for approximately 20,000 service members and dependents at this location. Storm water discharges from the MS4 enters Waikele and Kaukonahua Streams.

b. Wheeler Army Air Field, Wahiawa, Oahu, Hawaii

Wheeler Army Air Field is located in the saddle between the Waianae and Koolau Mountain Ranges on the island of Oahu, and serves as the headquarters to the 25th Aviation Brigade of the 25th Infantry Division (Light). Helicopters, vehicles, equipment, and supplies used by the Brigade are stored and maintained at the installation. The installation also contains a motor pool used by the Hawaii Air National Guard, an air field and maintenance facilities used by the Hawaii National Guard, and housing and amenities for approximately 3,224 service members and dependents. Storm water discharges from the MS4 enters Waikele Streams.

c. Fort Shafter, Honolulu, Oahu, Hawaii

Fort Shafter is located approximately one mile north of Keehi Lagoon on the island of Oahu, and serves as the headquarters for the U.S. Army, Pacific, which includes the Surgeon, Corps of Engineers Pacific Ocean Division, Oahu Consolidated Family Housing, Inspector General, Public Affairs, Deputy Chief of Staff for Operations and Plans, Deputy Chief of Staff for Logistics, the 45th Corps Support Group (Forward), and the US. Army Support Command Hawaii. The installation also houses vehicles storage and maintenance facilities for units of IX Corps, U.S. Army Reserve, and has housing and amenities for approximately 4,635 service members and dependents. Storm water discharges from the MS4 enters Kahauiki Stream.

d. Helemano Military Reservation, Wahiawa, Oahu, Hawaii

Helemano Military Reservation is located near the center of the island of Oahu. The reservation provides headquarters and operational facilities to the 125th Signal BN of the 25th Infantry Division (Light). The Reservation also has housing for approximately 9,200 service members and dependents. Storm water discharges from the MS4 enters Helemano and Poamoho Streams.

e. Aliamanu Military Reservation, Honolulu, Oahu, Hawaii

Aliamanu Military Reservation is located approximately three miles northwest of Fort Shafter, inside Aliamanu Crater, on the island of Oahu. The reservation primarily functions as a military family housing area, with approximately 2,600 housing units and amenities. In addition to the housing community, there are also 154 inactive ammunition bunkers and tunnels along the crater rim. Storm water discharges from the MS4 enters Halawa Stream, Moanalua Stream, and Salt Lake.

f. Tripler Army Medical Center, Oahu, Hawaii

Tripler Army Medical Center is located about 0.25 miles from Salt Lake on the island of Oahu. The installation provides medical services to military and civilian personnel assigned to the U.S. Pacific Command. The installation also contains a closed landfill, and has housing and amenities for approximately 3,879 service members and dependents. Storm water discharges from the MS4 enters Moanalua Stream.

2. Industrial Activities

The following industrial facilities were identified in the permit application:

a. Department of Public Works Building 2624, Schofield Barracks

- Automotive Repair and Maintenance (SIC Code 8111)
- General Warehousing and Storage (SIC Code 493110)

b. Motorpool Building 2600, Schofield Barracks

- Automotive Repair and Maintenance (SIC Code 8111)

c. Hot POL Refueling Pad, Schofield Barracks

- Airport Hangar and Runway (SIC Code 488119)

The current permit covers the industrial facilities and requires each facility to have a Storm Water Pollution Control Plan (SWPCP) and perform monitoring.

3. Receiving Water Classification

The receiving waters are classified by the Department of Health as Class 2 Inland Waters under Hawaii Administrative Rules (HAR), Section 11-54-05. It is the objective of Class 2 waters to protect their use for recreational purposes, propagation of fish and aquatic life, and agricultural and industrial water supplies, shipping, navigation and propagation of shellfish.

4. Impaired Water Bodies on CWA 303(d) List

CWA Section 303(d) requires states to identify specific water bodies where water quality standards (WQS) are not expected to be met after implementation of technology-based effluent limitations on point sources.

The 2012 State of Hawaii Water Quality Monitoring and Assessment Report, which includes the 2012 303(d) List of Impaired Water Bodies in the State of Hawaii, was approved by the EPA on September 20, 2013.

According to the report, the receiving waters are classified as follows:

Table F-2. Receiving Water Assessments from the 303(d) List/305(b) Report							
Receiving Water	Pollutant Decisions						Category Codes ¹
	Total Nitrogen	Nitrate+ Nitrite Nitrogen	Total Phosphorus	Turbidity	Total Suspended Solids	Other	
Waialeale Stream	Not Attained	Not Attained	Unknown	Unknown	Unknown	---	3,5
Kaukonahua Stream	Not Attained	Not Attained	Attained	Not Attained	Attained	---	2,3,5
Poamoho Stream	Visual	Visual	Visual	Visual	Unknown	---	3,5
Helemano Stream	Visual	Visual	Visual	Visual	Unknown	---	3,5
Halawa Stream	Visual	Visual	Visual	Visual	Visual	---	3,5
Moanalua Stream	Not Attained	Attained	Attained	Not Attained (Dry Season)	Attained	Trash	2,3,5
Salt Lake	Unknown	Unknown	Unknown	Not Attained	Unknown	Trash	3,5
Kahauiki Stream	Not Listed						

¹ Category Codes: 2 - Data show some uses attained
3 - Not enough data to evaluate
5 - Data show at least one use not attained, TMDL needed.

5. Summary of Existing Effluent Limitations and Monitoring Data

Effluent limitations contained in the existing permit for discharges from industrial activities and the MS4 and monitoring data presented in the permit renewal application are presented in the following tables.

a. Storm Water Monitoring Data from Industrial Activities

Table F-3. Historic Effluent Limitations and Monitoring Data – Storm Water Associated with Industrial Activities

Parameter	Units	Discharge Limitation	Reported Values		
			DPW Building 2624 ¹	Motorpool Building 2600 ²	Hot POL Refueling Pad ³
Total Nitrogen	µg/l	Report	250	410	390
Ammonia Nitrogen	µg/l	Report	ND	ND	ND
Nitrate+Nitrite Nitrogen	µg/l	Report	ND	ND	ND
Total Phosphorus	µg/l	Report	ND	ND	ND
Turbidity	NTU	Report	60	12.0	26.0
Total Suspended Solids	mg/l	Report	96	10	19
pH	SU	5.5-8.0	7.7	7.4	6.6
Dissolved Oxygen	mg/l	Report	4.9	5.2	6.8
Oxygen Saturation	% Sat	Report	54	57	58
Oil and Grease	mg/l	15	<5	<5	<5
Aluminum	µg/l	750	292	236	136
Antimony	µg/l	3000	0.519J	2.68	ND
Arsenic	µg/l	360	2.16	0.245J	ND
Cadmium	µg/l	3	ND	0.918J	ND
Chromium VI	µg/l	16	1.28	0.937J	0.668J
Copper	µg/l	6	16.0	4.94	1.83
Lead	µg/l	29	1.7	2.78	2.92
Nickel	µg/l	5	10.1	20.5	72.2
Zinc	µg/l	22	116	79.6	195
Endosulfan	µg/l	0.22	0.88E	NA	NA
Heptachlor	µg/l	0.52	0.015J	NA	NA
Toluene	µg/l	5800	ND	ND	1.1J

ND Not Determined

¹ DPW (Department of Public Works) Building 2624

SIC Codes: 8111 Automotive Repair and Maintenance
49311 General Warehousing and Storage

² Motorpool Building 2600

SIC Code: 8111 Automotive Repair and Maintenance

³ Hot POL Refueling Pad

SIC Code: 488119 Airport Hangar and Runway

b. Storm Water Monitoring Data from MS4 Discharges

Table F-4. Historic Effluent Limitations and Monitoring Data – Discharges from MS4

Parameter	Units	Discharge Limitation	Maximum Reported Value ¹
Flow	MGD	Report Only	0.047
Biochemical Oxygen Demand	mg/l	Report Only	12.4
Chemical Oxygen Demand	mg/l	Report Only	51.5

Table F-4. Historic Effluent Limitations and Monitoring Data – Discharges from MS4

Parameter	Units	Discharge Limitation	Maximum Reported Value ¹
Total Suspended Solids	mg/l	Report Only	583
Total Nitrogen	µg/l	Report Only	13.11
Total Phosphorus	µg/l	Report Only	2
Nitrate + Nitrite Nitrogen	µg/l	Report Only	11.9
pH	Standard Units	7.6 – 8.6	6.72 (min) 8.82 (max)
Oil and Grease	mg/l	15	9.2
Arsenic	µg/l	69	2.62
Aluminum	µg/l	Report Only	3430
Iron	µg/l	Report Only	3680
Manganese	µg/l	Report Only	109
Copper	µg/l	2.9	43.2
Lead	µg/l	140	18.9

¹ Source: Annual DMRs submitted by the Permittee for the years 2007 through 2011.

6. Compliance History

The DOH and EPA's contractor, PG Environmental LLC, conducted an audit of the Permittee's MS4 Program on June 18 and 19, 2013. The audit found the following potential permit violations:

- The Permittee's SWMP does not include adequate measureable goals to gauge permit compliance and permit effectiveness.
- The Permittee's program does not include procedures to detect and eliminate illicit discharges.
- The Permittee had not developed an effective program to reduce pollutants in storm water from construction sites. Multiple issues regarding erosion and sediment control BMP installation and maintenance were observed at active construction sites during the audit.
- The Permittee had not implemented its procedures for long-term operation and maintenance of post-construction BMPs.
- The Permittee had not developed a post-construction BMP permitting system as described in its SWMP.
- The Permittee had not adopted a mechanism to require activities to comply with the SWPCP until August 7, 2013.
- The Permittee's map of its MS4 was not up-to-date and therefore did not

display the location of all outfalls as required by the current permit.

- The Permittee could not demonstrate that it had performed system inspection and maintenance in accordance with the requirements of the current permit.
- The Permittee's SWMP does not address the maintenance requirements included in the current permit.

The audit also identified the following program deficiencies and areas for improvement:

- The Permittee's SWMP did not provide an accurate description of the MS4 program at the time of the audit.
- The Permittee should evaluate methods of distributing MS4 program responsibilities to develop a more effective program structure.
- The Permittee should enhance its construction storm water oversight inspection reports through the use of photographs and increased narrative documentation.
- The Permittee should use a dedicated erosion and sediment control inspector with enforcement capabilities for oversight of construction sites throughout the facility.
- The Permittee should establish specific preferences for post-construction BMP selection to help ensure that BMPs are appropriate for their intended function and are properly operated and maintained.
- The Permittee did not have an established process for identifying post-construction BMPs and associated maintenance requirements to be included in a comprehensive post-construction BMP tracking inventory.
- The Permittee should evaluate BMPs to reduce sediment from unpaved East Range access roads from entering the Permittee's MS4.

7. Planned Changes

No planned changes were declared at this time.

C. Proposed Determinations

This permit contains the same goals as the previous permit but contains more specific requirements for the Permittee to achieve the intended goals.

1. General Requirements

The general requirements, specified in Part A., sets the framework for Permittee compliance with the permit. The Permittee shall comply with its existing Storm Water Management Program (SWMP) Plan until submittal of the revised plan. The purpose of this requirement is to clarify DOH's expectations during which the SWMP Plan is being revised per the requirement of this permit and to prevent any gap in time where an SWMP Plan is not being implemented.

This part also contains other basic requirements, including requiring a copy of the SWMP Plan be retained at a location designated in its SWMP and the inclusion of the certification statement with all submittals, and provides the DOH and EPA addresses where information shall be submitted. This part further requires that the Permittee allows the public an opportunity to review and comment on the different plans required by the SWMP and clarifies the DOH's expectations for the Permittee to address all of DOH's comments on required submittals.

2. Discharge Limitations

Discharge Limitations listed in Part B. of the permit specify that the Permittee shall effectively prohibit non-storm water discharges through its MS4 into state waters (per Section 402(p) of the Act). "Effectively prohibit" means that a non-storm water discharge shall be specifically regulated by an NPDES permit, or that the discharge is not considered a waste, or that the discharge does not contain constituents of concern which would necessitate an NPDES permit. NPDES permitted discharges and certain non-storm water discharges identified in Part B.2. of this permit may be allowed into the MS4 provided that such discharges will not contain pollutants in amounts that will result in a violation of an applicable water quality standard.

As required by Section 402(p) of the Act and 40 CFR §122.26(d)(2)(iv), the discharge of pollutants must be reduced to the "maximum extent practicable (MEP)." The activities described in the SWMP shall meet this MEP control standard.

The discharge of pollutants from the Permittee's industrial facilities shall be consistent with the BAT/BCT requirement of the Act.

3. Receiving Water Limitations

Receiving Water Limitations listed in Part C of the permit are restated from HAR, Section 11-54-4(a). In accordance with HAR, Section 11-54-3(a), existing storm water discharges into State Waters are allowed provided such discharges meet the basic water quality criteria listed in HAR, Section 11-54-4 (refer to Part C.1. of the permit). The discharge shall not cause or contribute to a violation of any of the applicable beneficial uses or water quality objectives contained in HAR, Chapter 11-54, titled "Water Quality Standards." This part sets a minimum

frequency for visual inspections of State waters to provide guidance to the Permittee for development of their inspection program, and also to create an enforceable requirement.

4. Storm Water Management Plan

Storm Water Management Plan (SWMP) listed in Part D. of the permit contains six (6) minimum control measures as listed below.

- a. Public Education and Outreach
- b. Public Involvement/Participation
- c. Illicit Discharge Detection and Elimination
- d. Construction Site Runoff Control

Requirements within this section apply to all public construction projects and private projects which discharge storm water to the Permittee's MS4.

- e. Post-Construction Storm Water Management in New Development and Redevelopment

This section includes Low Impact Development (LID) requirements for addressing post-construction BMPs.

- f. Pollution Prevention/Good Housekeeping

This section requires the Permittee to develop and submit to DOH a trash control plan with an implementation schedule to reduce trash discharges from the MS4 to zero. Numerous waterbodies on Oahu are currently listed on the State's CWA section 303(d) as impaired due to trash, and the proposed requirement is intended to address this problem. Similar requirements have recently been adopted for trash control in the City and County of Honolulu's MS4 Permit, State DOT's MS4 Permit, and in the State of California. The DOH recommends that the Permittee review these requirements in developing a practicable plan and implementation schedule.

This section also requires the development of a maintenance plan for vegetated portions of the drainage system used for erosion and sediment control and LID features and the submittal of an Action Plan to address erosion at outlets to be submitted within one (1) year of the effective date of this permit and implemented within five (5) years.

g. Industrial and Commercial Activities Discharge Management Program

This section requires implementation of BMPs for industrial and commercial facilities through the issuance of a permit or written equivalent approval process for drainage connections and discharge of surface storm water runoff into the MS4. This section also specifies inspection frequencies for industrial and commercial facilities.

Under this section, the Permittee is required to review and approve SWPCPs for industrial activities, similar to the Plan review and approval process for construction activities.

The Permittee must also establish and implement enforcement policies for facilities which have failed to comply with its requirement and rules for penalties.

h. Modifications

Control measures for urban storm water management may need to be modified as new information is obtained, existing practices are evaluated, and new BMPs developed. This section requires the Permittee to revise the SWMP, as necessary, if any discharge limitation or water quality standard is exceeded. All modifications to this permit shall be made pursuant to any applicable requirements in the DOH's Standard NPDES Permit Conditions.

5. Industrial Facilities

The storm water runoff from industrial facilities within the installations covered by this individual MS4 permit are subject to the Storm Water Discharges Associated With Industrial Activity NPDES requirements under 40 CFR Part 122.26(b)(14)(ii). The storm water discharge from the facility can be covered under DOH's NPDES general permit for storm water associated with industrial activity, however, as in the current permit, it is included in this individual MS4 permit in Part E. Three industrial facilities were identified in the application.

Accordingly, the proposed storm water runoff discharge conditions and requirements for storm water associated with industrial activity are incorporated in the permit based on Appendix B of HAR, Chapter 11-55, *NPDES General Permit for Storm Water Associated with Industrial Activities*. The Permittee is also required to prepare and implement a SWPCP. The storm water requirements are retained from the current permit. Future industrial facilities may be covered under this individual MS4 permit upon submission of MS4 NPDES Individual Permit - Industrial Storm Water Discharge Notification Form.

6. Monitoring Requirements

a. The permit includes the following monitoring program objectives:

- Part F.1.a.(1) Assess compliance with this permit (including TMDL I&M Plans and demonstrating consistency with WLAs;
- Part F.1.a.(2) Measure the effectiveness of the Permittee's storm water management program;
- Part F.1.a.(3) Assess the overall health based on the chemical, physical, and biological impacts to receiving waters resulting from storm water discharges and an evaluation of the long term trends;
- Part F.1.a.(4) Characterize storm water discharges;
- Part F.1.a.(5) Identify sources of specific pollutants
- Part F.1.a.(6) Detect and eliminate illicit discharges and illegal connections to the MS4; and
- Part F.1.a.(7) Assess the water quality issues in watershed resulting from storm water discharges to receiving waters.

Annual Monitoring Plan is due on June 1st, one (1) month before the end of the fiscal year. Part F.1.b. lists the Plan's minimum requirements.

a. Industrial Facilities

Part F.2. specifies the monitoring parameters for Industrial Facilities. Discharge Monitoring Report (DMR) requirements are specified in Part G.2.b.(6). DMRs shall be included in the Annual Monitoring Report and submitted via NetDMR once established by the DOH.

7. Reporting Requirements

a. Annual Report

Most of the information specified in the end-of-year report is required by 40 CFR §122.42(c). The Annual Report is due on December 31st, three (3) months after the end of the fiscal year.

b. Annual Monitoring Report

The Annual Monitoring Report is due on December 31st, three (3) months after the end of the fiscal year, and may be included in the Annual Report.

DMRs for industrial facilities shall be included in the Annual Monitoring Report. A DMR must be submitted for the facility which is scheduled to be monitored even if sampling was not conducted. An explanation as to why sampling was not conducted shall be explained with the submittal.

8. Summary of Deadlines

The permit includes a Summary of Deadlines in Part H of the permit. For consistency, deadlines were listed as appeared in the permit.